**IN THE CLAIMS:**

**Please amend the claims as follows:**

1. (Currently Amended) A method for discovering by an OLT (Optical Line Termination) OAM (Operations, Administration & Maintenance) capabilities of multiple ONUs (Optical Network Units) connected to the OLT in an Ethernet passive optical network, the method comprising the steps of:

assigning by the OLT identifications for identifying each of the ONUs according to registration requests from the ONUs connected to the OLT, and starting by the OLT an OAM capability discovery operation for the OAM capabilities of the ONUs by transmitting first OAM capability information messages, which requests OAM capabilities of the ONUs, respectively; and

receiving by the OLT second OAM capability information messages that include for reporting the OAM capabilities of the respective ONUs, from said second OAM capability messages being sent by the respective ONUs having received in response to a request for OAM capabilities from the OLT in the first OAM capability information message.

2. (Currently Amended) The method as claimed in claim 1, further comprising a step of transmitting by the OLT a third OAM capability information message for reporting completion of the OAM capability discovery operation to a predetermined ONU from among the multiple respective ONUs when the OLT receives the second OAM capability information message from the predetermined ONU.

3. (Previously Presented) The method as claimed in claim 1, wherein a structure of a data field constituting each of the messages has a first field and a second field, which are added to a general structure of an OAM state PDU (packet data unit) data field, the first field storing static allocated bandwidth information in order to transmit the OAM capability when the OAM capability discovery operation is performed, and the second field storing

information on a network topology.

4. (Currently Amended) A method for discovering by an OLT (Optical Line Termination) OAM (Operations, Administration & Maintenance) capabilities of multiple ONUs (Optical Network Units) connected to the OLT in an Ethernet passive optical network, the method comprising the steps of:

(a) assigning by the OLT identifications for identifying each of the ONUs according to registration requests from the ONUs connected to the OLT, and transmitting by the OLT first OAM capability information messages, which requests OAM capabilities of the ONUs, respectively, for starting an OAM capability discovery operation for the ONUs to the ONUs;

(b) waiting by the OLT for reception of second OAM capability information messages for reporting OAM capabilities from the respective ONUs during a first predetermined period of time after transmission of the first OAM capability information messages; and

(c) transmitting by the OLT third OAM capability information messages for reporting completion of the OAM capability discovery operation by the OLT to the respective ONUs having transmitted the second OAM capability information messages, when the second OAM capability information messages are received from the ONUs.

5. (Canceled)

6. (Currently Amended) The method as claimed in claim 4, further comprising a step of retransmitting by the OLT the first OAM capability information messages for starting the OAM capability discovery operation for the ONUs according to the first step (a), when the second OAM capability information messages are not received from the respective ONUs during the first predetermined period of time for which the OLT waits the reception of the second OAM capability information messages.

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7. (Currently Amended) The method as claimed in claim 4, wherein each of the respective ONUs receives the first OAM capability information message for starting the OAM capability discovery operation from the OLT, wherein each ONU of the respective ONUs performs the following steps:

transmits the second OAM capability information message for reporting the OAM capability of the ONU to the OLT, and

waits for the third OAM capability information message from the OLT for reporting the completion of the OAM capability discovery operation for the ONU during a second predetermined period of time.

8. (Previously Presented) The method as claimed in claim 4, wherein a structure of a data field constituting each of the messages has a first field and a second field, which are added to a general structure of an OAM state PDU (packet data unit) data field, the first field storing static allocated bandwidth information in order to transmit the OAM capability when the OAM capability discovery operation is performed, and the second field storing information on a network topology.

9. (Previously Presented) The method as claimed in claim 6, wherein the ONU retransmits the second OAM capability information message for reporting the OAM capability of the ONU when the third OAM capability information message for reporting the completion of the OAM capability discovery operation for the ONU is not received from the OLT during the second predetermined period of time

10. (Currently Amended) The method as claimed in claim one of claims 1 to 3, wherein the OAM capability information message includes a field for representing an operation state of the OAM capability information message.

11. (Currently Amended) The method as claimed in claim 910, wherein the field for

representing the operation state of the OAM capability information message includes one of:

a first set value for representing that the OLT starts the discovery operation for the OAM capabilities of the ONUs;

a second set value for representing report of the OAM capabilities of the ONUs;

a third set value for representing the completion of the OAM capability discovery operation by the OLT; and

a fourth set value for representing an OAM state PDU after the completion of the OAM capability discovery operation.


12. (Currently Amended) The method as claimed in claim one of claims 4, wherein the OAM capability information message includes a field for representing an operation state of the OAM capability information message.


13. (Currently Amended) The method as claimed in claim 11 12, wherein the field for representing the operation state of the OAM capability information message includes one of:

a first set value for representing that the OLT starts the discovery operation for the OAM capabilities of the ONUs;

a second set value for representing report of the OAM capabilities of the ONUs;

a third set value for representing the completion of the OAM capability discovery operation by the OLT; and

a fourth set value for representing an OAM state PDU after the completion of the OAM capability discovery operation.